

### **REMARKS**

Applicants thank the Examiner for reconsidering and withdrawing the previous obviousness-type double patenting rejection of claims 19-20 and 41-42<sup>1</sup> over U.S.

Patent 6,653,309.

### **The Claim Amendments**

Applicants have canceled claims 19, 41-45, 47, and 49.

Applicants have amended claim 46 to recite specific substituents for R<sub>1</sub>-R<sub>5</sub> and R<sub>7</sub>-R<sub>11</sub>. Specifically, amended claim 46 now recites that two adjacent groups selected from either R<sub>1</sub>, R<sub>2</sub>, R<sub>3</sub>, R<sub>4</sub>, and R<sub>5</sub> or from R<sub>7</sub>, R<sub>8</sub>, R<sub>9</sub>, R<sub>10</sub>, and R<sub>11</sub>, are taken together with the carbon atoms to which they are bound to form a 5 to 6 membered aromatic carbocyclic ring or heterocyclic ring.

Amended claim 46 further recites negative provisos as follows:

when X is -C(O)-NH- or -NH-C(O)-, any two adjacent groups selected from R<sub>1</sub>, R<sub>2</sub>, R<sub>3</sub>, R<sub>4</sub>, and R<sub>5</sub> are taken together with the carbon atoms to which they are bound to form an unsubstituted fused benzene ring, the remaining three of R<sub>1</sub>, R<sub>2</sub>, R<sub>3</sub>, R<sub>4</sub>, and R<sub>5</sub> are one hydroxy group and two hydrogen groups, and four of R<sub>7</sub>, R<sub>8</sub>, R<sub>9</sub>, R<sub>10</sub>, and R<sub>11</sub> are hydrogen, then the remaining one of R<sub>7</sub>, R<sub>8</sub>, R<sub>9</sub>, R<sub>10</sub>, and R<sub>11</sub> is not 2-(4-chloro-phenyl)-ethyl, 2-(3,4-dichloro-phenyl)ethyl, 2-(3,4-dimethoxy-phenyl)ethyl, or

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<sup>1</sup> Applicants presume the Examiner intended to say claims 41-42, not claims 40-41. Claim 40 stood as withdrawn.

2-(1,1'-biphenyl-4-yl)ethyl; and

when X is -C(O)-NH- or -NH-C(O)-, any two adjacent groups selected from R<sub>7</sub>, R<sub>8</sub>, R<sub>9</sub>, R<sub>10</sub>, and R<sub>11</sub> are taken together with the carbon atoms to which they are bound to form an unsubstituted fused benzene ring, the remaining three of R<sub>7</sub>, R<sub>8</sub>, R<sub>9</sub>, R<sub>10</sub>, and R<sub>11</sub> are one hydroxy group and two hydrogen groups, and four of R<sub>1</sub>, R<sub>2</sub>, R<sub>3</sub>, R<sub>4</sub>, and R<sub>5</sub> are hydrogen, then the remaining one of R<sub>1</sub>, R<sub>2</sub>, R<sub>3</sub>, R<sub>4</sub>, and R<sub>5</sub> is not 2-(4-chlorophenyl)-ethyl, 2-(3,4-dichlorophenyl)ethyl, 2-(3,4-dimethoxy-phenyl)ethyl, or 2-(1,1'-biphenyl-4-yl)ethyl;

when X is -SO<sub>2</sub>-NH- or -NH-SO<sub>2</sub>-, one of R<sub>1</sub>, R<sub>2</sub>, R<sub>3</sub>, R<sub>4</sub>, and R<sub>5</sub> is -NH<sub>2</sub>, the remaining four of R<sub>1</sub>, R<sub>2</sub>, R<sub>3</sub>, R<sub>4</sub>, and R<sub>5</sub> are hydrogen, and any two adjacent groups selected from R<sub>7</sub>, R<sub>8</sub>, R<sub>9</sub>, R<sub>10</sub>, and R<sub>11</sub> are taken together with the carbon atoms to which they are bound to form an unsubstituted pyridine ring fused to a benzene ring, then at least one of the remaining R<sub>7</sub>, R<sub>8</sub>, R<sub>9</sub>, R<sub>10</sub>, and R<sub>11</sub> is not hydrogen or -OCH<sub>3</sub>;

when X is -SO<sub>2</sub>-NH- or -NH-SO<sub>2</sub>-, one of R<sub>7</sub>, R<sub>8</sub>, R<sub>9</sub>, R<sub>10</sub>, and R<sub>11</sub> is -NH<sub>2</sub>, the remaining four of R<sub>7</sub>, R<sub>8</sub>, R<sub>9</sub>, R<sub>10</sub>, and R<sub>11</sub> are hydrogen, and any two adjacent groups selected from R<sub>1</sub>, R<sub>2</sub>, R<sub>3</sub>, R<sub>4</sub>, and R<sub>5</sub> are taken together with the carbon atoms to which they are bound to form an unsubstituted pyridine ring fused to a benzene ring, then at least one of the remaining R<sub>1</sub>, R<sub>2</sub>, R<sub>3</sub>, R<sub>4</sub>, and R<sub>5</sub> is not hydrogen or -OCH<sub>3</sub>;

when X is -SO<sub>2</sub>-NH- or -NH-SO<sub>2</sub>- and four of R<sub>1</sub>, R<sub>2</sub>, R<sub>3</sub>, R<sub>4</sub>, and R<sub>5</sub> are hydrogen, then any two adjacent groups selected from R<sub>7</sub>, R<sub>8</sub>, R<sub>9</sub>, R<sub>10</sub>, and R<sub>11</sub> are not taken together with the carbon atoms to which they are bound to form an unsubstituted indole ring, an indole ring substituted by -Cl, =O, -cyano, -CH<sub>3</sub>, or -C(O)-CH<sub>3</sub>, or an unsubstituted indazole ring; and

when X is -SO<sub>2</sub>-NH- or -NH-SO<sub>2</sub>- and four of R<sub>7</sub>, R<sub>8</sub>, R<sub>9</sub>, R<sub>10</sub>, and R<sub>11</sub> are hydrogen, then any two adjacent groups selected from R<sub>1</sub>, R<sub>2</sub>, R<sub>3</sub>, R<sub>4</sub>, and R<sub>5</sub> are not taken together with the carbon atoms to which they are bound to form an unsubstituted indole ring, an indole ring substituted by -Cl, =O, -cyano, -CH<sub>3</sub>, or -C(O)-CH<sub>3</sub>, or an unsubstituted indazole ring.

See European Patents 0221346 and 0673937, and Chio et al., *Antimicrobial Agents and Chemotherapy*, 40(3):727-733 (1996). Amended claim 46 remains readable on the elected species - compound 100. Support for the amendment can be found in the application as filed. See,

e.g., pages 9-17 and pages 45-56.

Applicants have also added new claims 50 and 51. New claim 50 is directed to pharmaceutical compositions comprising specific compounds. Some of those specific compounds have a moiety X of -C(O)-NH- or -NH-C(O)-. Thus, new claim 50 reads on the elected species - compound 100. New claim 51 depends from new claim 50 and recites additional agents in the compositions. Support for new claims 50-51 can be found in the application as filed. *See*, e.g., Table 1 on page 18-page 39, and page 45, lines 8-23.

Finally, applicants have amended claims 20, 21, 24, 27, 30, 33, 36-38, and 48 to depend from amended claim 46 or new claims 50-51, instead of now-canceled claims 19, 41-42, and 45. Support for these amendments can be found in the application as filed. *See*, e.g., pages 9-17 and pages 45-56.

Claims 20, 46, 48, and 50-51 are now pending in this application. Claims 21-40 stand withdrawn. Claims 21-35 are subject to rejoinder.

None of these amendments or new claims adds new matter.

Applicants make these amendments and claims cancellations expressly without prejudice to their seeking patents directed to the canceled subject matter in applications claiming the benefit of and priority from this application.

## **Rejection**

### **35 U.S.C. §103(a) - Obviousness**

The Examiner has maintained the rejection of claims 19-20 and 41-42<sup>1</sup> under 35 U.S.C §103(a) as being allegedly obvious over Nishino et al., U.S. Patent 6,071,968 ("the '968 patent"). The Examiner has further rejected claims 46-49 under 35 U.S.C §103(a) as being allegedly obvious over Nishino et al., U.S. Patent 6,071,968 ("the '968 patent"). In particular, the Examiner asserts that "the positional isomers are prima facie obvious as a whole, absent evidence to the contrary, especially when R8 and R10 can be amino in herein."

Applicants traverse. However, solely to expedite the prosecution of this application, applicants have canceled claims 19, 41-42, 47, and 49, thus, rendering the rejection of those claims moot. Applicants have amended claim 46 to recite specific moieties for R<sub>1</sub>-R<sub>5</sub> and R<sub>7</sub>-R<sub>11</sub>. In particular, amended claim 46 now recites that two adjacent groups selected from either R<sub>1</sub>, R<sub>2</sub>, R<sub>3</sub>, R<sub>4</sub>, and R<sub>5</sub> or from R<sub>7</sub>, R<sub>8</sub>, R<sub>9</sub>, R<sub>10</sub>, and R<sub>11</sub>, are taken together with the carbon atoms to which they are bound to form a 5 to 6 membered aromatic carbocyclic ring or heterocyclic ring. Amended claim 46 is not obvious over the '968 patent. Although the '968 patent refers to a genus of compounds, none of the compounds of that genus includes such fused ring system. Nowhere does

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the '968 patent teach or suggest any compounds that include such fused ring system. Therefore, the '968 patent does not render obvious the compositions of amended claim 46. For the same reasons, the '968 patent fails to teach or suggest the compositions in amended claims 20 and 48, both of which now depend from amended claim 46. Therefore, the '968 patent does not render pending claims 20, 46, and 48 obvious.

Applicants have also added new claims 50-51. New claim 50 is not obvious over the '968 patent. Nowhere does the '968 patent teach or suggest any of the specific compounds recited in new composition claim 50. The claimed compounds 100-101, 103-107, 110-132, 134-146, 148-149, 151, 153-156, 159-173, 175, 177-188, 190-193, and 304 of new claim 50 have a fused ring system consisting of a 5 or 6-membered aromatic carbocyclic ring or heterocyclic ring. The claimed compounds 102, 109, 325, and 326 of new claim 50 have a tetrahydrofuran group. The claimed compound 152 of new claim 50 has a bi-phenyl group. The claimed compounds 196, 200, and 204 of new claim 50 have an oxydibenzene group. The claimed compounds 300-303 and 305-324 of new claim 50 have a moiety X of -NH-SO<sub>2</sub>-, -SO<sub>2</sub>-NH-, -NH-C(O)-S-, -S-C(O)-NH-, -SO<sub>2</sub>-O-, or -O-SO<sub>2</sub>-. The '968 patent does not disclose or suggest any compounds that include such fused ring system, a tetrahydrofuran group, a bi-phenyl group, or an oxydibenzene group. The '968 patent also restricts the moiety X to only -C(O)-NH- and -NH-C(O)-. Therefore, the '968 patent does not render obvious the compositions of new claim 50. For the same reasons, the '968 patent fails to teach or suggest the compositions recited in claim 51, which depends from new claim 50. Therefore, the '968 patent does not render pending claims 50 and 51 obvious.

For the foregoing reasons, applicants request that the Examiner withdraw the obviousness rejection and allow the pending claims.

**Rejoinder of Withdrawn Method of Use Claims 21-35**

Compositions claims 20, 46, 48, and 50-51 are in condition for allowance. Accordingly, applicants request that the Examiner rejoin withdrawn method claims 21-35, all of which depend, directly or indirectly, from those composition claims.

### **CONCLUSION**

Applicants request that the Examiner consider the above remarks, withdraw the outstanding rejections, rejoin withdrawn method claims 21-35, and allow claims 20-35, 46, 48, and 50-51 to issue.

Respectfully submitted,  
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